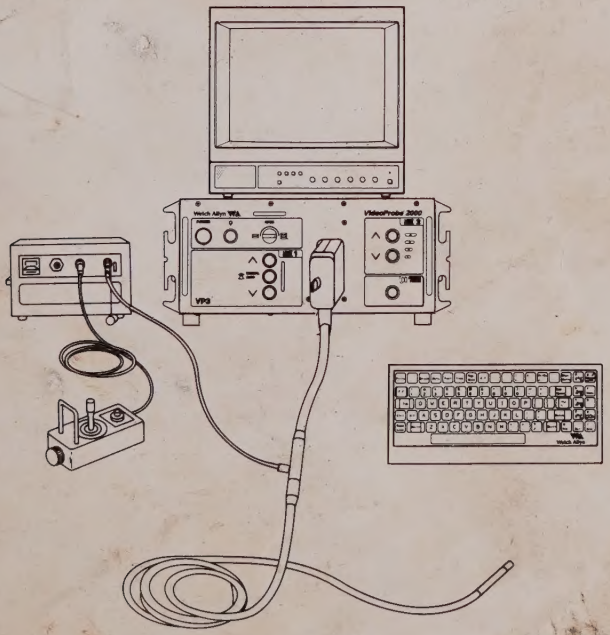
Welch Allyn

VideoProbe™ 2000

Instruction Manual



LONGSTEER™

VideoProbe™ 2000

Instruction Manual

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Welch Allyn

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LongSteer VideoProbe™ 2000
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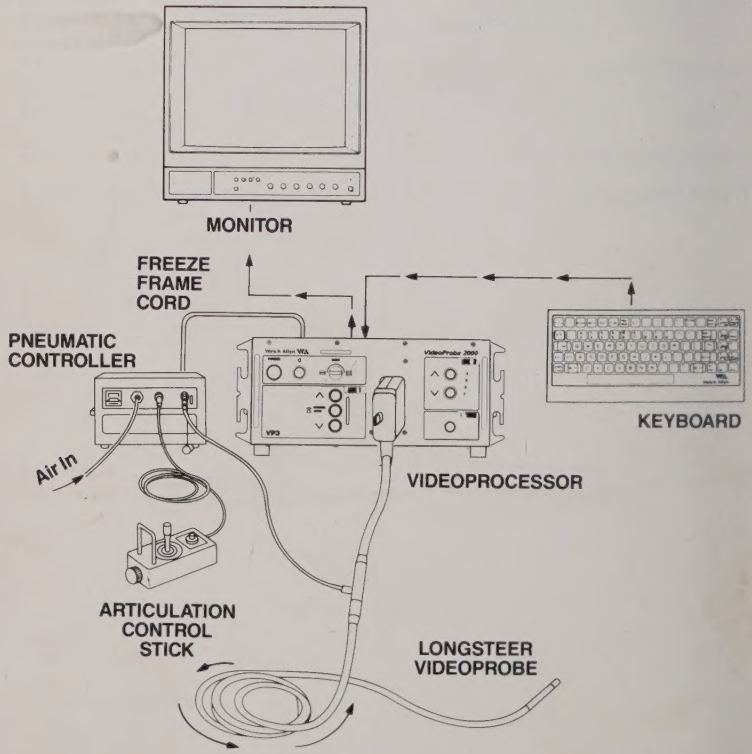
System

Components

The LongSteer VideoProbe 2000 System consists of (6) major components:

1. VideoProbe 2000 VideoProcessor
2. Monitor
3. LongSteer VideoProbe 2000
4. Pneumatic Controller
5. Articulation Control Stick
6. Character Generator Keyboard



Power Requirements

Components

The system must have an air supply and a 100/115 volt at .2 amps or 220/240 volt at .1 amps AC 50/60 hertz electrical supply. For best articulation results the air supply should be capable of operating between 80 to 120 p.s.i. (5.5 to 8.2 bars) at 0.5 cfm (14 l/m) free flow rate.

VideoProcessor Keyboard Monitor

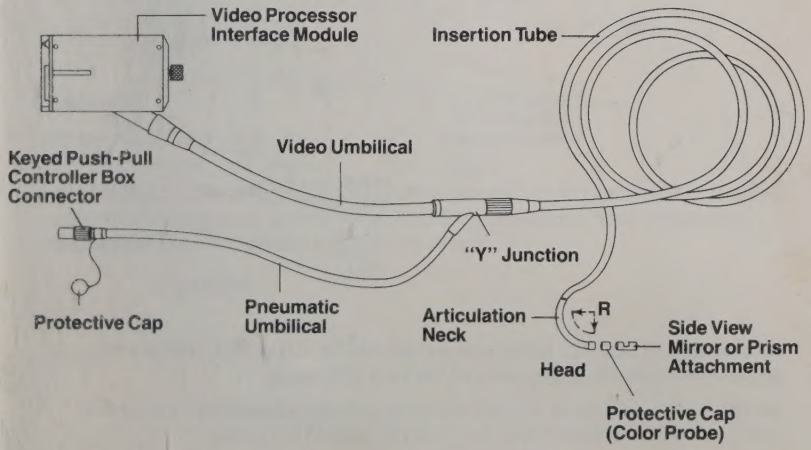
Components

Operating instructions and specification for the **VideoProcessor, Keyboard** and **Monitor** are covered in the standard VideoProbe 2000 manuals, part nos: VA155 (110V. NTSC VPII), VA156 (220V. PAL VPII), VA153 (110V. NTSC VPI). VA154 (220V. PAL VPI), VA234-A (110V. NTSC VP3), VA236-A (220V. PAL VP3)

LongSteer VideoProbe Color (15m), B/W (30m)

Components

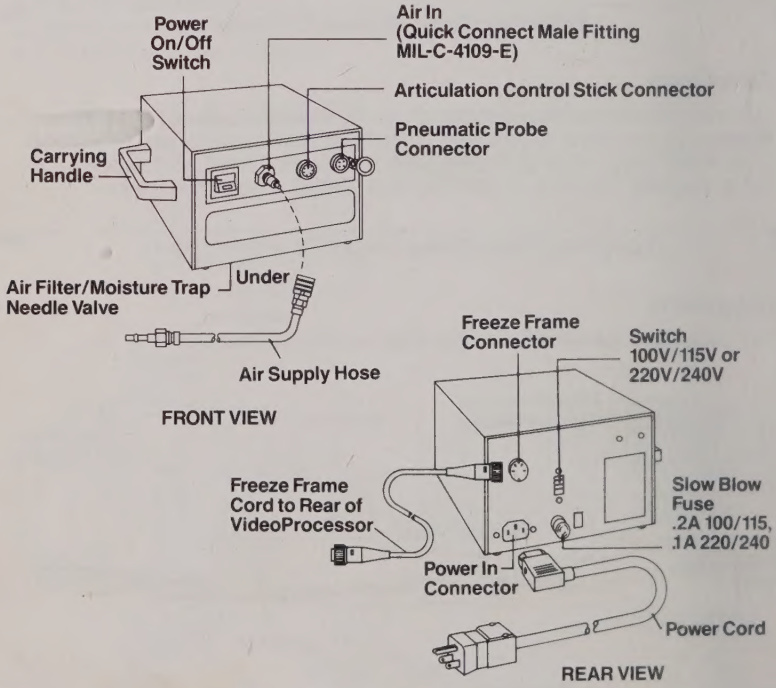
The **LongSteer VideoProbe** has the following standard features:



Pneumatic Controller
Air Supply Hose Freeze Frame Cord—Power Cord

Components

The **Pneumatic Controller** converts the signals received from the articulation control stick to regulate the air pressure which goes to the probe articulation neck. The pneumatic cotroller has the following features:



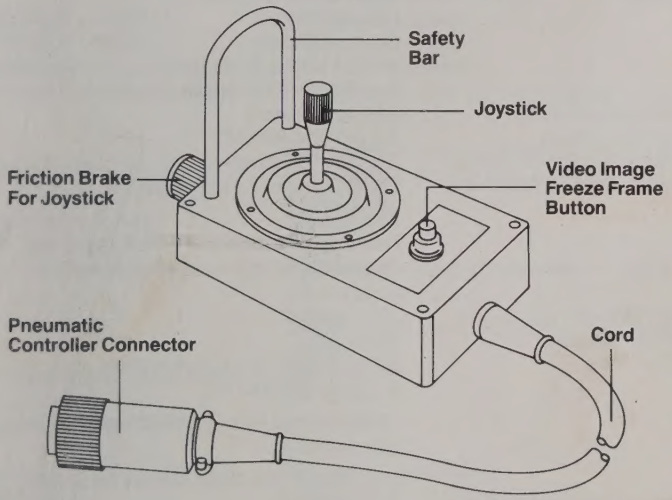
CAUTION: AIR SUPPLY HOSE and a PNEUMATIC CONTROLLER are rated at a maximum operating pressure of 135 psig (9.2 bars).

NOTE: Air filter/moisture trap needle valve should be depressed before and after each use to ensure clean dry air is supplied to the probe.

Articulation Control Stick

Components

The **Articulation Control Stick** translates the position of the stick into an electrical signal for the pneumatic controller. The articulation control stick has the following features:



CAUTION: Always return the articulation control stick to the center position before removing your VideoProbe from the work piece. This will prevent damage to the articulation neck of the probe.

LongSteer VideoProbe™ 2000
Specifications

Mechanical Specifications Diameters 12.7mm (.50 inches)

Probe Working Length	Up to 15m (50 Ft.) Color Up to 30m (100 Ft.) B & W
Probe Working Diameter	12.7mm (0.5 inches) maximum
Video Umbilical Length	75 cm (2½ Ft.)
Pneumatic Umbilical Length	105 cm (3½ Ft.)
Articulation	Right, Left—100° min. Up—140° min. Down—90° min. At 120 psi (8.2 bars) supply See Figure 1 for details (Pg. 9)
Head Rigid Length	2.5 cm (1.0 inch)
Articulation Length	6.4 cm (2½ inches)
Minimum Articulation Radius	3.8 cm (1.5 inches)
Minimum Bend Radius Probe	Distal 200 cm (7 Ft.) of insertion tube 18 cm (7 in.) Remainder of insertion tube 8 cm (3 in.)
Probe Type Construction	Polyurethane impregnated stainless steel braid
Optical Field of View	90° diagonal
Side View Adapter	Mirror type
Depth of Field	Sharp Image 10mm (0.4 inches) to 50mm (2.0 inches) Usable Image 5mm (0.2 inches) to 100mm (4.0 inches) See VideoProbe 2000 Manual for details
Operating Temperature Range	32°F to 115°F* (0°C to 46°C)
Storage Temperature Range	0°F to 150°F (–18°C to 65°C)
Humidity	90% Non-Condensing
Watertight	1.0 bar tested (14.7 psi)

*At temperatures other than the indicated ideal range, probes will operate with reduced function as follows:

32°F — Excellent Image, Full Articulation
14°F — Excellent Image, 50% Articulation
0°F — Excellent Image, No Articulation

115°F - 150°F — Some Image Deterioration, Full Articulation
Above 150°F — Greater Image Deterioration, Full Articulation, Damage to Adhesives

LongSteer VideoProbe 2000
Specifications

Mechanical Specifications Diameters 6.1mm (.240 inches) 90° F.O.V.

Probe Working Length	10.7m (35 Ft.) Color
Probe Working Diameter	6.1mm (0.240 inches) maximum
Video Umbilical Length	75 cm (2½ Ft.)
Pneumatic Umbilical Length	105 cm (3½ Ft.)
Articulation	Up, Down—90° min. At 120 psi (8.2 bars) supply
Head Rigid Length	2.3 cm (.90 inches)
Articulation Length	3.3 cm (1.3 inches)
Minimum Articulation Radius	2.0 cm (.80 inches)
Minimum Bend Radius Probe	Distal 100 cm (3 Ft.) of insertion tube 6.4 cm (2.5 in.) Remainder of insertion tube 3.8 cm (1.5 in.)
Probe Type Construction	Polyurethane impregnated stainless steel braid
Optical Field of View	90° diagonal
Side View Adapter	None
Depth of Field 90° F.O.V.	Sharp Image 10mm (0.4 inches) to 50mm (2.0 inches) Usable Image 5mm (0.2 inches) to 100mm (4.0 inches)
Operating Temperature Range	35°F to 115°F* (2°C to 46°C)
Storage Temperature Range	0°F to 150°F (–18°C to 65°C)
Humidity	90% Non-Condensing
Watertight	1.0 bar tested (14.7 psi)

*Please refer to page 6 for operating details at other than specified range.

LongSteer VideoProbe™ 2000
Specifications

Mechanical Specifications Diameters 6.1 mm (.240 inches) 52° F.O.V.

Probe Working Length	Up to 7.6m (25 Ft.) Color
Probe Working Diameter	6.1 mm (0.240 inches) maximum
Video Umbilical Length	75 cm (2½ Ft.)
Pneumatic Umbilical Length	105 cm (3½ Ft.)
Articulation	Up, Down—90° min. At 120 psi (8.2 bars) supply
Head Rigid Length	2.3 cm (.90 inches) (without prism attachment)
Articulation Length	3.3 cm (1.3 inches)
Minimum Articulation Radius	2.0 cm (.80 inches)
Minimum Bend Radius Probe	Distal 100 cm (3 Ft.) of insertion tube 6.4 cm (2.5 in.) Remainder of insertion tube 3.8 cm (1.5 in.)
Probe Type Construction	Polyurethane impregnated stainless steel braid
Optical Field of View	52° diagonal
Side View Adapter	Detachable prism
Depth of Field 52° F.O.V.	Sharp Image 17mm (0.67 inches) to 50mm (2.0 inches) Usable Image 10mm (0.4 inches) to 100mm (4.0 inches)
Operating Temperature Range	35°F to 115°F* (2°C to 46°C)
Storage Temperature Range	0°F to 150°F (–18°C to 65°C)
Humidity	90% Non-Condensing
Watertight	1.0 bar tested (14.7 psi)

*Please refer to Page 6 for operating details at other than specified range.

Mechanical Specifications

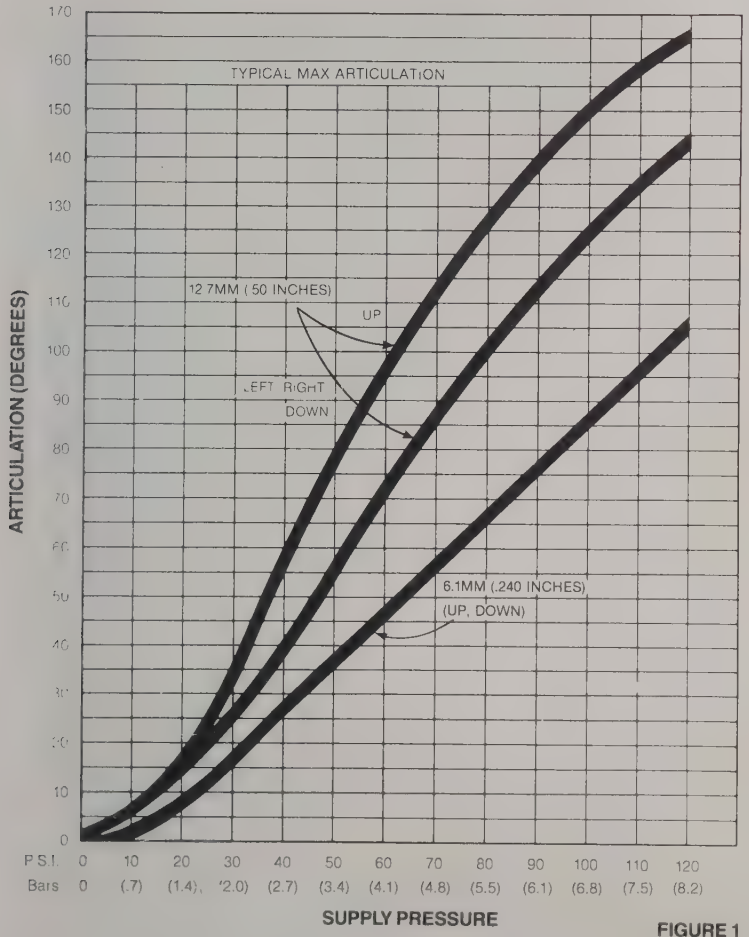


FIGURE 1

LongSteer VideoProbe 2000 System

1. Insert probe interface module into VideoProcessor. Confirm video picture.
2. Connect LongSteer probe plug to pneumatic controller.
   CAUTION: Do not connect or disconnect the probe from the pneumatic controller with air pressure operating (this may damage o-ring seals).
3. Connect articulation control stick, air supply (80 to 120 psi) (5.5 to 8.2 bars) and electrical power to the pneumatic controller.
4. The insertion tube of the probe may be coiled, however, the head end should be as straight as possible for .50 inch (12.7mm) dia. probes for the first 2 meters (7 feet) and 1 meter (3 feet) for .240 inch (6.1 mm) dia. probes for best articulation.
5. Operate the articulation control stick while watching the video monitor.
6. Before removing the probe from the work piece, always return the articulation control stick to the center position or turn the pneumatic controller off (this will let the articulation neck go limp and prevent damage).
7. Check the air filter/moisture trap before and after each use. The trap is located directly below the air supply input on the bottom of the pneumatic controller. Press the small pin to release moisture which may have collected in the line filter during usage.

CAUTION: Do not use in an explosive environment.

LongSteer VideoProbe™ 2000
Troubleshooting

Video

Video image problems or aspects associated with the VideoProcessor should be directed to the standard VideoProbe 2000 Manuals: 110V. NTSC VPII; 220V. PAL VPII; 110V. NTSC VPI; 220V. PAL VPI; 110V. NTSC VP3; 220V. PAL VP3.

Freeze Frame: Also see troubleshooting below.

Articulation

1. When the articulation control stick is operated, the probe should articulate and there should be a slight pulsing sound coming from the pneumatic controller. (Except when articulation control stick is in the center position or pushed all the way to the extremes of its throw.) If there is no sound or articulation, check the power hook-ups:
   - **A.** Check to be sure that the input pressure is turned on and plugged into the pneumatic controller (pressure should be greater than 80 psig [5.5 bars] and not more than 135 psig [9.2 bars]).
   - **B.** Check to be sure that the articulation control stick is plugged into the pneumatic controller.
   - **C.** Check to be sure that the on/off switch on the pneumatic controller is turned on. (Power switch will light up when turned on.)
   - **D.** Check to be sure that the electrical power cord is plugged into the rear of the pneumatic controller. (Again power switch will light up when turned on.)
   - **E.** Check the air filter/moisture trap. Press the small pin to release moisture, which may collect in the line during usage.
2. If you hear an air rushing sound, then there is a leak in the air system.
   - **A.** There should be no air flow with the articulation control stick in the center position, the articulation control stick unplugged or the pneumatic controller turned off. If you hear an air rushing sound in any of these positions, then check the air pressure input supply for leaks or call the factory for Customer Service Assistance.
   - **B.** Check to be sure that the LongSteer probe is plugged in to the pneumatic controller.
   - **C.** Check the pneumatic connector on the probe to insure the o-ring seals are intact.
3. If the freeze frame button does not work, check to be sure that the freeze frame cord is connected from the rear of the pneumatic controller to the rear of the VideoProcessor.

CAUTION: Do not use in an explosive environment.

Service Procedure

If a Welch Allyn VideoProbe needs repair, the following steps should be taken:

1. Call the Welch Allyn VideoProbe Service Center. See list of centers below.
2. A customer service representative will attempt to troubleshoot and correct the problem by telephone.
3. If the problem cannot be corrected by telephone, the customer service representative will authorize return of the product by assigning a return authorization number. Equipment without a return authorization number will not be accepted.
4. Upon receipt of the product, an evaluation will be made to determine service required.
5. Within 48 hours, our customer service representative will contact you with disposition.

The provisions stated herein are procedural in nature and shall not be construed to expand the obligations or liabilities of the manufacturer under the stated Warranty.

Welch Allyn will make every attempt to assist VideoProbe System customers in obtaining repair services for Video Tape Recorders, instant Cameras, Monitors and Mobile Carts, etc., offered for sale by the company, but which are not of its manufacture. Warranty service must be directly with the manufacturer of these products.

Welch Allyn Service Centers

United States:
Welch Allyn, Inc.
4619 Jordan Road
P.O. Box 100
Skaneateles Falls, NY 13153-0100
Telephone: 315-685-8969
FAX: 315-685-7905
U.S.A.

Germany:
Welch Allyn GMBH
Taunusstrasse 12
6238 Wallau
Germany
Telephone: 06122-76004
FAX: 06122-76007

Hong Kong:
Welch Allyn (H.K.) Inc.
7/F, Kam Ping Bldg.
95 King's Road
North Point
Hong Kong
Telephone: 8525-716567
FAX: 852-8876597

Warranty

Welch Allyn guarantees that VideoProbe System Components of its manufacture are free from defects in materials and workmanship under normal use and service. Welch Allyn's obligation under this Warranty shall be limited to the repair or exchange of any part or parts thereof which may prove to be defective under normal use and service within one year from the date of original purchase and which our examination shall disclose to our satisfaction to be defective. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON OUR PART, AND WE NEITHER ASSUME NOR AUTHORIZE ANY OTHER PERSON TO ASSUME FOR US, ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF THE VIDEOPROBE SYSTEM. This Warranty shall not apply to any product which has been subject to accident, negligence, alteration, abuse, unauthorized repair, improper storage, or other misuse. This Warranty applies only to the original purchaser and cannot be assigned or transferred to any third party. Accessories excluded under the above are optional Videotape Recorders, etc., which, although manufactured to Welch Allyn specifications, will carry their own warranties.

Welch Allyn

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